

ABSTRACT OF THE DISCLOSURE

5 A method of screening a DNA construct library for a single chain monoclonal antibody fusion reagent capable of binding a transcriptional associated biomolecule *in vivo* is described. Single chain monoclonal antibody fusion reagents capable of binding transcriptional associated biomolecules *in vivo* are provided. Single chain monoclonal antibody fusion reagents which are capable of regulating transcription *in vivo* are also provided. Therapeutic methods for regulating the transcription of a gene *in vivo* are also described. A method is further provided for screening a 10 plurality of compounds for specific binding affinity with a single chain monoclonal antibody fusion reagent. A method is also described for diagnosing a physiological disorder manifested by an abnormal level of a transcription associated biomolecule. A DNA construct (pVP16Zeo) as well as primers for the construction and screening of single chain monoclonal antibody fusion reagent libraries to facilitate the isolation and production of single chain monoclonal antibody fusion reagents in yeast and *E.coli* are also provided. A kit for screening a DNA construct library for a 15 single chain monoclonal antibody fusion reagent capable of binding a transcriptional associated biomolecule *in vivo* is also provided.